

659.18 : 659.18.3
 1784. PHOTOPRODUCTION OF π^+ MESONS IN COMPLEX
 NUCLEI. E. G. Gorbacheva and N. M. Gerasimov.
 Dokl. Akad. Nauk SSSR, Vol. 111, No. 5, 1206-8 (1956), in Russian.
 Photographic emulsions were exposed to gamma-rays of
 maximum energy 260 MeV. The cross-section for the production of
 π^+ mesons of energy less than 4.18 MeV was found to be $7.3 \pm 0.3 \times 10^{-28}$ cm² for light nuclei and $5.0 \pm 0.4 \times 10^{-28}$ cm² for heavy nuclei. The
 angular distribution of the associated fast protons ($E > 20$ MeV)
 shows a strong forward peaking. The data are consistent with single
 nucleon excitation by the incident gamma-ray in the majority of the
 events. W. O. Lock

Handwritten: 659.18 - 659.18.3
 1784 - GUM

Handwritten: RMP - Ray

PANOVA, N.M.

GORZHEVSKAYA, B.G.; PANOVA, N.M.

Photoproduction of slow negative π -mesons on complex nuclei. Dokl.
AN SSSR 111 no.6:1205-1208 D '56. (MLRA 10:3)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR.
Predstavleno akademikom D.V. Skobel'tsynym.
(Mesons) (Photons)

PANOVA, N.M.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1941
AUTHOR GORZEVSKAJA, E.G., PANOVA, N.M.
TITLE The Photoproduction of Slow Negative Pions on Complicated Nuclei.
PERIODICAL Dokl. Akad. Nauk 111, fasc. 6, 1205-1208 (1956)
Issued: 2 / 1957

The present work is intended as an investigation of the mechanism of this photoproduction. Above all it is intended to find out whether the photoproduction of mesons in complicated nuclei takes place on a single nucleon or whether this process is more complicated. Furthermore, data concerning the interaction between a slow meson and the trunk of the nucleus are sought.

The experiment: NIKFI photoemulsions of the type "P" were irradiated on the synchrotron of the Physical Institute of the Academy of Science by a photon bundle with $E_{\text{max}} = 250$ MeV. As the photoemulsions were saturated with heavy water, it was thus possible at the same time to study the photoproduction of negative pions on deuterium. The carrying out of the experiment is discussed in short.

Measuring results: On an emulsion surface of 830 cm^2 , 262 mesons, which had come to a standstill in the emulsion, were discovered. Of these 75 and 163 were assigned to the production of negative pions on a light and on a heavy nucleus respectively. In 24 cases the nucleus, on which the meson was produced, could not be identified. The cross section of the production of negative pions with energies of up to 4 MeV on the light and heavy nuclei of the emulsion amounts (after the necessary corrections have been taken into account) to $(2,2 \pm 0,33) \cdot 10^{-29} \text{ cm}^2$ and $(8,8 \pm 0,9) \cdot 10^{-29} \text{ cm}^2$. A graph and a table illustrate

Dokl.Akad.Nauk 111, fasc.6,1205-1208 (1956) CARD 2 / 2

PA - 1941

- the distribution of stars according to the number of their beams; the traces of mesons and recoil nuclei are not counted on this occasion. A great part of two-beam stars and practically all stars with more than two beams belong to the
- light nuclei. In many cases only one proton is emitted on the occasion of the production of a slow negative pion. The angular distribution of these protons in the laboratory system has a marked maximum in the direction of the photon bundle and when photon energy was increased the maximum became even more marked.

Discussion of results: The angular distribution of the protons originating from heavy nuclei and from deuterium (in which negative pions with less than 10 MeV are produced) have the same character, but in the angular distribution of the protons originating from deuterium the maximum is more marked. This difference indicates a considerable influence exercised by the motion of the nucleons in the nucleus. At least in 30% of the cases investigated the photon produces a meson by interaction with one of the nucleons of the nucleus, on which occasion the momentum of the photon is transferred essentially to that nucleon on which the meson is produced. The results found here are a good illustration and proof of the single-nucleon model.

INSTITUTION: Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR.

PANOVA, O.

U.S.S.R., Uzbekskaya SSR

On Lower Boz-Su Hydroelectric Power Plant No. 3

SO: N: Pranda Vostoka 11; Sept. 47 Tashkent

Abstracted in USAF "Treasure Island", on file in Library of Congress,
Air Information Division, Report No TI 38498.

GASANOV, A.S.; FANQVA, C.Ye.; TAGDISI, D.G.

Present status of biochemistry based on materials of the First
All-Union Congress of Biochemists. Izv. AN Azerb. SSR. Ser.
biol. no.4:127-133 '64. (MIRA 11:12)

1. GASANOV, A. S., PANOVA, O. YE.
2. USSR (600)
4. Sulfanilamides-Physiological Effect
7. Combined effect of certain sulfanilamide preparations and carotonaphthalan on the activity of carbonic anhydrase in blood.
Trudy Vses. fiz. biokhim. i farm. No. 1, 1952
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

GASANOV, A.S.; PANOVA, O.Ye.

Combined effect of certain sulfanilamide preparations and carotona-
phthalane on the activity of carbonic anhydrase in blood. Tr.
Vsesoiuz. obsh. fiziol. no. 1:126 1952. (CML 24:1)

1. Delivered 28 March 1950, Baku.

PERMYAKOV, Il'ya Grigor'yevich; SATTAROV, Maksim Murtazovich; GENKIN,
Izrail' Borisovich. Prinimal uchastiye PANOVA, R.K.; SAVINA,
Z.A., ved. red.; POLOSINA, A.S., tekhn. red.

[Methodology of analyzing the development of oil fields]Meto-
dika analiza razrabotki nef'tian'nykh mestorozhdenii. Moskva, Gos-
toptekhnizdat, 1962. 358 p. (MIRA 15:10)
(Oil reservoir engineering)

ZAKHAROVA, M.S.; PANOVA-STOYANOVA, O.P.

Species-specific antisera for representatives of the *Bordetella* genus. Zhur. mikrobiol., epid. i immun. 42 no.6:60-64 '66.
(MIRA 18:9)

1. Institut epidemiologii i mikrobiologii imeni N.P. Gimalai
AMN SSSR i Nauchno-issledovatel'skiy institut epidemiologii i
mikrobiologii Narodnoy Respubliki Bolgarii.

IVANITSKAYA, L.P.; IL'ICHEVA, N.P.; PANOVA, T.V.; UPITER, G.D.

Mutagenic effect of 1,3-dichloro-5,5-dimethylhydantoin on colimycin-
and monomycin-producing organisms. Antibiotiki 9 no.3:208-211 Mr '64.
(MIRA 17:12)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR i Moskovskiy
zavod medpreparatov No.2.

LUR'YE, Yu.Yu.; PANOVA, V.A.

Determination of small quantities of aromatic hydrocarbons
in waste waters. Zav.lab. 29 no.3:293-295 '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut
vodoshabzheniya, kanalizatsii, gidrotekhnicheskikh
sooruzheniy i inzhenernoy gidrogeologii.

(Sewage--Analysis)
(Hydrocarbons)

ALFEROVA, L.A.; PANOVA, V.A.; TITOVA, G.A.

Deodorization of the waste waters from sulfate pulp factories.
Bum. prom. [38] no.6:5-8 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnab-
zheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i
inzhenernoy gidrogeologii.
(Deodorization) (Industrial wastes)

LUR'YEV, Yu.Yu.; PANOVA, V.A.

Determination of turpentine in waste waters. Zav.lab. 29
no.1:33-35 '63. (MIRA 16:2)

1, Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnab-
zheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i
inzhenernoy gidrogeologii.
(Turpentine) (Sewage—Analysis)

LUR'YE, Yu.Yu., prof.; PANOVA, V.A.

Method for controlling the degree of purity cyano-containing effluents
by means of active chlorine. Gig.1 san. 25 no.8:44-46 Ag '60.
(MIRA 13:11)

1. Iz nauchno-issledovatel'skogo instituta vodosnabzheniya,
kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy geologii,
(WATER—POLLUTION) (CHLORINE)

LUR'YE, Yu.Yu.; PANOVA, V.A.

Determination of aliphatic amines in industrial waste waters. Zav.
lab. 27 no.11:1333-1336 '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya,
kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy
gidrogeologii.
(Amines) (Sewage--Analysis)

LUR'YE, Yu.Yu.; PANOVA, V.A.

Some remarks on the detection of cyanides and active chlorine in
purified waste water. TSvet. met. 33 no.8:14-15 Ag '60.
(MIRA 13:8)

(Industrial wastes) (Water--Analysis)

PANOVA, V. A.

✓ **Determination of cyanides and thiocyanates in very low concentrations.** Yu. Yu. Lur'e and V. A. PANOVA. *Zhurnal Khim. 21; 672-5 (1956).* To det. ~~CN⁻~~ and CNS⁻ ions the method of Aldridge (C.A. 40, 1426) is suggested with modifications. Treat the sample contg. not over 0.7 of CN⁻ and CNS⁻ ions with 2 ml. H₂O, add 0.2 ml. of satd. aq. Br, 0.2 ml. 2% As₂O₃ soln., 3 ml. pyridine reagent (1:1 aq. pyridine soln., with 100 ml. concd. HCl) and 0.8 ml. 5% benzidine-HCl in 0.24N HCl. After 15-20 min., read the red color in a photometer, to give CN⁻ + CNS⁻. In a 2nd test tube make the soln. acidic with 0.1N HCl, heat on a boiling bath 0.5 hr., and then det. CNS⁻ in a colorimeter. About 0.01 mg./l. of CN⁻ is not volatilized from the soln. Hydrazine sulfate can be substituted for arsenious acid.

G. M. Kosolapoff

Inst. Vozdgo

①

LUR'YE, Yu.Yu.; PANOVA, V.A.

Determination of furfurole and its derivatives in industrial
waste waters. Zav.lab. 28 no.3:281-285 '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya,
kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy
gidrogeologii. (Furaldenyde) (Sewage--Analysis)

USSR/Medicine - Diets

PANOVA, V. A.

FD-1757

Card 1/1 Pub 141-4/15

Author : Nogaller, A. M.; Vishnivskaya, Yu. S.; Makarova, L. A.; Prokopchuk
N. M.; Gyandzhetsyan, N. A.; Panova, V. A.

Title : An experiment on treating patients at a resort for chronic cholecystitis
with a diet rich in magnesium salts, vitamins, and plant matter.

Periodical : Vop. pit. 17-23, Jan/Feb 1955

Abstract : Compared the effect of the above diet on patients having chronic cholecys-
titis with a conventional diet. Improvements were noted in almost all
symptoms for patients receiving this diet. The diet had little effect on
chronic infected cholecystitis and on parasitic cholecystitis. Six tables.
Fourteen references (eleven USSR).

Institution: Clinical Department (scientific director - Professor A. S. Vishnevskiy)
Institute of Balneology on Caucasian mineral waters, and sanitariums
Nos 1, 5, and 7 of the Yessentukskiy Resort.

LUR'YE, Yu.Yu., PANOVA, V.A.

Behavior of cyanides in a body of water. *Gidrotekhn. nat.* 1964, 133-143. *1964.*

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodopostavleniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii, Moskva.

LUR'YE, Yu.Yu.; PANOVA, V.A.

Determination of pine oil in waste waters from ore-cleaning
plants. Zav.lab. 28 no.2:154-156 '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya,
kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy
gidrogeologii.

(Turpentine oil) (Sewage—Analysis)

IUR'YE, Yu.Yu.; PANOVA, V.A.

Determination of cyanides and thiocyanates in waste waters.
Zav.lab. 31 no.4:420-421 '65.

Determination of cyanates in waste waters. Ibid.:421
(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut
vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh
svoystv i inzhenernoy gidrogeologii.

PANOVA, V. G.

Distr: 4E3d

Calculations of the results of analyses of natural gases.
N. N. Rostovtsev and V. G. PANOVA. *Vestnik Nauch.-
Issledovatel. Geol. Inst., Vopr. Neftopolit. i Gidrot.*
1956, No. 18, 185-88.—An elementary discussion about sim-
plifying algebraic calcns. in the lab. Numerous numerical
examples are given. Werner Jacobson

1/1

JMB

3
1

ПАНОВА, В. Г.

РОСТОВТСЕВ, Н.Н.; ПАНОВА, В.Г.

Practical directions for carrying out cert₂in computations in
processing results of analyses of the chemical composition
of natural gases. Mat.VSEGEI no.18:155-168 '56. (MLRA 10:4)
(Gas, Natural--Analysis)

SEVAST'YANOV, M.I.; SEDYAKIN, N.I., red.; PANOVA, V.L., red.; LARIONOV,
G.Ye., tekhn.red.

[Memorandum on safety rules for an electrician working on overhead
lines] Pamiatka po tekhnike bezopasnosti elektromontera-montazhnika
vozdukhnykh liniy elektropredachi. Moskva, Gos.energ.izd-vo, 1960.
31 p. (MIRA 13:6)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po proizvodstvu
elektromontazhnykh rabot.
(Electric lines--Maintenance and repair)

KHRONCHENKO, G.Ye., red.; PANGVA, V.L., red.; LARIONOV, G.Ye., tekhn. red.

[Instructions VSN-38-60/MS RSPSR on the installation of 35 to 220 kv. air switches and pneumatic systems for controlling them] Instruksia po montazhu vozdukhnykh vykliuchatelei 35-220 kv i pnevmaticheskikh sistem dlia upravleniia imi, VSN-38-60/MS RSPSR. Moskva, Gos. energ. izd-vo, 1961. 85 p. (MIRA 14:7)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye po proizvodstvu elektromontazhnykh rabot.

(Electric switchgear)

KOFMAN, K.D.; VISHTOK, V.M.; PANOVA, V.L., red.; IGLITSYN, I.L., red.
izd-va; VORONIN, K.P., tekhn. red.

[Safety engineering and industrial hygiene regulations for electrical installation operations, in accordance with the May 8, 1960 decision, of the Central Committee of the Trade Union of Construction and Building Material Manufacturing Workers] Sbornik pravil tekhniki bezopasnosti i proizvodstvennoi sanitarii pri elektromontazhnykh rabotakh. Soglasovan s TsK profsoiuza rabochikh stroitel'stva i promyshlennosti stroitel'nykh materialov 7 maia 1960 g. Moskva, Gos.energ.izd-vo, 1961. 255 p. (MIRA 15:2)

1. Russia (1917- T.S.F.S.R.) Glavnoye upravleniye po proizvodstvu elektromontazhnykh rabot.

(Electric engineering--Safety measures)

BODUNGEN, I.N.; PANOVA, V.L., red.

[Safety engineering manual for the repairmen of electrical equipment] Pamiatka po tekhnike bezopasnosti dlia naladchikov elektroustanovok. Moskva, Gos. energ. izd-vo, 1961. 30 p. (MIRA 14:10)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po proizvodstvu elektromontazhnykh rabot.

(Electric apparatus and appliances—Safety measures)

(Electric apparatus and appliances—Maintenance and repair)

L 16240-66 BWT(m) ~~ENP(t)~~ ~~ENP(b)~~ IJP(c) JD

ACC NR: AT6002258

SOURCE CODE: UR/2584/65/006/000/0255/0260

AUTHOR: Belyayev, L.M.; Gil'varg, A.B.; Panova, V.P.; Sil'vestrova, I.M.;
Smirnov, S.P.

ORG: none

TITLE: Growing of CdS crystals from a melt and study of their properties [Paper
presented at the Third Conference on Crystal Growing held in Moscow from 18 to 25
November, 1963]

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 6, 1965, 255-260

TOPIC TAGS: cadmium sulfide, crystal growing, photoconductivity, piezoelectric
property, zone melting, photosensitivity, crystal defect, dark current, volt ampere
characteristic

ABSTRACT: The paper describes the apparatus and methods for growing crystals of
type A^{II}B^{VI} from a melt at high pressure and deals with a study of the photoelectric,
piezoelectric, and other properties of the CdS crystal. The apparatus, the diagrams of
which are given, made it possible to carry out the growing from the melt under pressure
both by the method of directional removal of heat and by the method of zone melting.
Card 1/2

L 1624C-66

ACC NR: AT 8002258

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The CdS crystals possessed photoconductivity in the 540 — 800 mμ range. A shift of the photosensitivity region toward longer wavelengths indicated the presence of a substantial concentration of defects and possible copper impurities. The difference of dark conductivity ($10^{-7} - 10^{-10} \text{ ohm}^{-1} \text{ cm}^{-1}$) indicated that individual crystals and various portions of one and the same crystal were inhomogeneous. The volt-ampere characteristic of the dark current and photocurrent of a crystal were measured, and the piezoelectric moduli and elastic constants were measured by resonance methods. Authors thank V. A. Demin, K. I. Gusenkova, A. V. Podlesskaya, F. I. Dmitriyeva, and V. F. Miuskova for assistance in the work. Orig. art. has: 3 figures and 1 table."

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 013

Card 2/2 7/19/85

BELYAYEV, L.M.; KRASIL'NIKOV, V.A.; LYAMOV, V.Ye.; PANOVA, V.P.;
SIL'VESTEROVA, I.M.; SMIRNOV, S.P.; GIL'VARG, A.B.

Interaction of ultrasonic waves with conduction electrons in
cadmium sulfide. Kristallografiia 10 no.2:252-255 Mr-Ap '65.
(MIRA 18:7)

1. Institut kristallografii AN SSSR.

MATVEYEV, V.V.; PANOVA, V.P.; RASSKAZIKHINA, T.F.; SOKOLOV, A.D.

Fast neutron spectrometry with the aid of lithium iodide
scintillating single crystals. Prib. i tekhn. eksp. 8 no.4:
46-48 JI-Ag '63. (MIRA 16:12)

L 10154-65 REC(b)-2/EWT(1)/REC(t)/T P1-4/P2-6 IJP(c) GO/AT
 S/0070/65/010/002/0252/0255
 ACCESSION NR: AP5008473
 AUTHOR: Belyayev, L. M.; Krasil'nikov, V. A.; Lyamov, V. Ye.; Panova, V. P.;
 Sil'vestrova, I. M.; Smirnov, S. P.; Gil'varg, A. B. 42 41 3
 TITLE: Interaction of ultrasonic waves with conduction electrons in cadmium sulfide 27
 SOURCE: Kristallografiya, v. 10, no. 2, 1965, 257-255
 TOPIC TAGS: cadmium sulfide, ultrasonic wave, photoconductivity
 ABSTRACT: The strong interaction of conduction electrons with acoustic waves along definite crystallographic axes in CdS, together with the photoconductivity of this semiconductor material, which facilitates changing the electron concentration, make cadmium sulfide an excellent material for studying the interaction of ultrasonic waves with conduction electrons. These interactions take the form of attenuation, amplification or modulation of the ultrasonic wave, a change in the voltage-current characteristics of the crystal in a strong electric field, or an electroacoustic effect. All these effects were studied in CdS crystals grown from a melt. The orientation of the crystal was

oriented both parallel and perpendicular to the plane of the film.
Dark conduction was 10^{-10} to 10^{-4} $\Omega \cdot \text{cm}^{-1}$. Illumination reduces the conductivity.
Card 1/3

L 44154-65

ACCESSION NR: AP5008473

10^{-4} to 10^{-3} $\Omega \cdot \text{cm}^{-1}$. The ends of the specimens were coated with indium by vacuum deposition. It was found that the maximum change in elasticity and in the damping constant takes place at maximum photosensitivity. Amplification of ultrasonic pulses was observed in some specimens when measuring attenuation with the application of an external electric field. The amplification amounted to 2.5-3 db/mm. Frequency of 24 Mc and a field strength of 1200 v/cm. Voltage-current char-

dozens of millivolts. Orig. art. has: 3 figures

ASSOCIATION: Institut kristallografi AN SSSR (Institute of Crystallography,
Academy of Sciences SSSR)

SUBMITTED: 20May64

ENCL: 00

SUB CODE: SS, NP

Card 2/3

2.11.151-SS

ACCESSION NR: AP5008473

NO REF SOV: 003

OTHER: 009

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239110008-6"

Card 3/3 *MB*

BELYAYEV, L.M.; PEREKALINA, Z.B.; VARFOLOMEYEVA, V.N.; PANOVA, V.P.;
DOBRZHANSKIY, G.F.

Luminescence properties of lithium fluoride activated by uranium.
Kristallografiia 5 no.5:757-760 S-O '60. (MIRA 13:10)

1. Institut kristallografi AN SSSR.
(Lithium fluoride) (Uranium) (Luminescence)

BELYAYEV, L.M.; GIL'VARG, A.B.; PANOVA, V.P.

CsI(Tl) Scintillators for recording α particles. Atom.energ. 10
no.5:502-503 My '61. (MIRA 14:5)
(Alpha rays) (Scintillation counters)

L 17692-63 EWT(1)/EWT(q)/EWT(m)/BDS AFFTC/ASD/RSD-3 JD
 8/0120/63/000/004/0046/0048 66
 65
 ACCESSION NR: AP3004887
 AUTHOR: Matveyev, V. V.; ~~Baron, V. P.~~; Reskaziukina, T. F.; Sokolov, A. D.
 TITLE: Fast neutron spectrometry using scintillating lithium iodide single crystals

SOURCE: Pribery* 1 tekhnika eksperimenta, no. 4, 1963, 46-48

TOPIC TAGS: spectrometry, fast neutron, single crystal, lithium iodide crystal, lithium iodide, fast neutron measurement, fast neutron spectrometry, scintillation crystal decay time, light yield

ABSTRACT: The characteristics of a fast neutron spectrometer using lithium iodide crystals activated with europium and a method for measuring fast neutron spectra in the presence of an intense γ -background are described. The LiI(En) crystals were grown by the Stockbarger method at the Institut Kristallografi AN SSSR (Institute of Crystallography of the Academy of Sciences SSSR). The crystals were colorless and transparent. The measurements show that the light yield of the crystals in the region of 4630 Å is approx. 20-30% of that of standard NaI(Tl) crystals. The measured decay time of the crystals was approx. 1.4 μ sec. In order to obtain measurements with minimum possible distortions, two crystals with identical decay times, differing significantly in sensitivity to fast neutrons

L 17692-63

ACCESSION NR: AP3004887

but equally sensitive to γ -radiation, were used. It was found that lithium iodide crystals made of reagents enriched with the $\text{Li}^6[\text{Li}^6\text{I}(\text{Eu})]$ or $\text{Li}^7[\text{Li}^7\text{I}(\text{Eu})]$ isotopes are best suited for the purpose. Since no $\text{Li}^7\text{I}(\text{Eu})$ single crystals were available to the authors, they used lithium iodide single crystals made of a natural mixture of lithium isotopes. While this combination complicates the method of processing the spectra, it also has certain advantages: crystals more than 10 mm in diameter have approximately the same sensitivity to thermal and slow neutrons, so that the distortions introduced by these particles into fast neutron spectra can be discounted. Fast neutron spectra from a Po + Be source and from a reactor were investigated. The results indicate that the method permits effective separation of neutron and γ -radiation. During measurement of fast neutron spectra the integral load of the spectrometer must not exceed 10^4 pulses/sec, and care must be taken to shield the sensing elements from thermal neutrons. The authors express their gratitude to A. I. Samakhov for preparation of reagents used in growing the crystals." Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 31Aug62

DATE ACQ: 28Aug63

ENCL: 00

SUB CODE: NS, PH

NO REF SOV: 001

OTHER: 003

Card 2/2

PANOVA, V. P., ^YPERLSTEEN, V. A., and ^YBETSAEV, L. M.

I-Academicheskoy, Moscow
"Investigation of Activators Distribution in Alkali-Halogen
Crystals by Radioactive Isotop Method" (Section 14-13)-paper submitted at the
General Assembly and International Congress of Crystallography, 10-19 Jul 57,
Montreal, Canada.

C-3,800,189

SOV/70-3-4-21/26
AUTHORS: Belyayev, L.M., Perl'shteyn, V.A. and Panova, V.P.
TITLE: Investigation of the Distribution of an Activator in Alkali Halide Crystals by the Method of Radioactive Indicators. II. (Issledovaniye raspredeleniya aktivatora v shchelochno-galoidnykh kristallakh metodom radio-aktivnykh indikatorov. II)
PERIODICAL: Kristallografiya, 1958, Vol 3, nr 4, pp 506-507 (USSR)
ABSTRACT: First part in Kristallografiya, 1957, vol 2, Nr 3, p 437. Radioactive $Tl^{204}I$ was added to alkali halide crystals during growth to enable the movement of the cation impurities to be followed. KI crystals to which $TlCl$, $TlBr$ or TlI were added were studied to see the effects of the anions on the distribution of the impurity cations. Br^{82} and I^{131} were also used as indicators. It is concluded that anions of the activator influence only quantitatively the distribution of cations of the activator through the crystal (KI - Tl salt system) but do not influence the emission spectrum or the intensity of the

Card 1/2

SOV/70-3-4-21/26
Investigation of the Distribution of an Activator in Alkali
Halide Crystals by the Method of Radioactive Indicators. II.

scintillation of the crystal. The distribution of the
anions of the activator follows the same law of distri-
bution as the cations.

There are 3 figures and 3 Soviet references.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography Ac.Sc.USSR)

SUBMITTED: January 14, 1958

card 2/2

3

24.7100

16011
SOV/70-4-5-33/36

AUTHORS:

Belyayev, L. M., Dobrzhanskiy, G. F., Chadayeva, V. V.,
Panova, V. P., Marekalina, Z. B., Varfalomeyeva, V. N.

TITLE:

Growing Activated Lithium Fluoride Crystals

PERIODICAL:

Kristallografiya, 1959, Vol 4, Nr 5, pp 794-795 (USSR)

ABSTRACT:

The admission of impurities into the structure of LiF crystals to activate them for detection of thermal electrons, as for example for use in scintillators, is difficult, because of certain crystal-chemical properties of the crystals. The authors have grown LiF crystals by the Kyropoulos method in open Pt crucibles. In each case, a seed was attached to a cooler, protected by a Pt mantle. Mg, Al, Fe, Cu, Ga, In, and U compounds were added to the readily molten LiF. The luminiscence and absorption spectra were examined by monochromatizer UM-2 and spectrophotometer SF-4 respectively. The excitation by ultraviolet rays disclosed the highest luminescence of LiF(Mg) crystals and of those activated by uranyl

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Growing Activated Lithium Fluoride Crystals

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SOV/70-4-5-33/36

compounds. The former showed higher absorption than LiF, especially of ultraviolet rays. The luminescence intensity of the LiF(Mg) crystals increases with the duration of aging of the molten phase prior to crystallization. The excitation of the LiF crystals, activated by uranyl compounds, was high by both electron beams and X-rays. The scintillation intensity of LiF(U) crystals was about 4% of that of NaI(Tl). There are 4 figures; and 4 references, 2 Soviet, 1 German, 1 U.S. The latter is: R. S. Moon, Phys. Rev., 13, 1210-1211, 1948.

ASSOCIATION: Crystallographical Institute of the Academy of Sciences of the USSR (Institut kristallografii AN SSSR)

SUBMITTED: June 15, 1959

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Growing Activated Lithium Fluoride Crystals

76011

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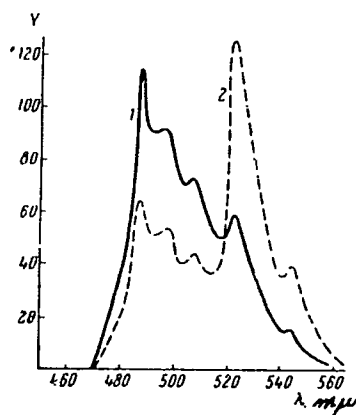


Fig. 4. Luminescence Spectra of the LiF Crystals
Activated by: (1) $\text{UO}_2(\text{NO}_3) \cdot 6\text{H}_2\text{O}$ and (2) $\text{UO}_2\text{SO}_4 \cdot 3\text{H}_2\text{O}$.

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22878

S/089/61/010/005/006/015
B102/B214

21.5200

AUTHORS: Belyayev, L. M., Gil'varg, A. B., Panova, V. P.

TITLE: CsI(Tl) scintillators for the recording of α -particles

PERIODICAL: Atomnaya energiya, v. 10, no. 5, 1961, 502-503

TEXT: The authors investigated the possibility of preparing large CsI(Tl) crystals for scintillators 30-55 mm in diameter with high resolution for the purpose of α -particle detection and spectrometry. The CsI(Tl) crystals prepared in the Institut kristallografii AN SSSR (Institute of Crystallography AS USSR) as well as industrially manufactured crystals were used for the preparation of thin scintillators. The carefully polished thin crystal plates were glued to 1.5-2 mm thick glass bases. The characteristics of the CsI(Tl) scintillators were taken by the help of a one channel scintillation spectrometer with the photomultipliers of the type $\Phi\gamma$ -24 (FEU-24) and $\Phi\gamma$ -29 (FEU-29). For scintillators of thickness 0.4 and 0.2 mm with diameters 30, 40, 50, and 55 mm spectral resolutions of 14-22 % (FEU-24) and 11-16 % (FEU-29) were obtained on excitation with alpha particles of Pu^{239} . The alpha radiation used was monochromatic up to ± 5 %.

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22878

S/089/61/010/005/006/015
B102/B214

CsI(Tl) scintillators for the recording...

The degree of inhomogeneity of the system scintillator - photomultiplier was investigated by means of a moving alpha source Am^{241} . On displacing the source from the center to the periphery there resulted a decrease in the amplitude of the alpha peak by 30 % and a corresponding deterioration in resolution. The inhomogeneity is due to the inhomogeneous distribution of the activator in the alkali halide and it exhibits itself in a dependence of the light yield at the place where the alpha particle appears. In the scintillators discussed here it does not amount to more than 4% which corresponds to a fluctuation of the spectral resolution by 0.4-0.5 %. An investigation of the difference of sensitivity in the different parts of the photocathode of FEU-29 showed that at a distance of 15 mm from the center of the photocathode the Am^{241} alpha peak undergoes an amplitude decrease of 25-30 %. That means that the inhomogeneity of the photocathode of the photomultiplier is the principal cause of the error appearing in the photometric measurement. In all 14 thin CsI(Tl) scintillators 30-55 mm in diameter were prepared. The following results are obtained for central excitation by Am^{241} alpha radiation when the source diameter was 3 mm:

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CsI(Tl) scintillators for the recording...

Diameter of the source in mm	Spectral resolution for Am ²⁴¹ alpha particles, %
30	3.5-4.0
40	4.0-4.5
50	5.5-6.3
55	5.2-6.3

The spectrometric parameters of the scintillators depend on the thickness of the crystal and the surface treatment. When the thickness changes from 2 to 0.2 mm (for 30 mm diameter) the resolution is improved from 4.2 to 3.5 %. By polishing the out surface the resolution could be brought to 4.1 % from 4.5 % and the yield of light increased by 5 %. There are 1 figure and 6 references: 1 Soviet-bloc and 5 non-Soviet-bloc. The most important references to English-language publications read as follows: I. Robertson, A. Ward. Proc. Phys. Soc., 73, No. 3, 523 (1959); M. Halbert. Phys. Rev., 107, No. 3, 647 (1957).

SUBMITTED: October 17, 1960

Card 3/3

S/070/60/005/005/009/017
E132/E360

AUTHORS: Belyayev, L.M., Perekalina, Z.B., Varfolomeyeva, V.N.,
Panova, V.P. and Dobrzanskiy, G.F.

TITLE: The Luminescent Properties of Lithium Fluoride
Activated by Uranium ✓

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 5.
pp. 757 - 760

TEXT: Crystals of LiF - U were grown by the Kiropulos method in air. Uranium was introduced as uranyl nitrate or sulphate in concentrations of 0.01 to 0.5 wt.%. Crystals with 0.01% activator had a blue-green luminescence and with 0.02% and above a yellow-green luminescence. The spectra of the luminescence excited by a mercury lamp (ПРК-4 (PRK-4) with a УФС-1 (UFS-1) filter) were measured with a УМ-2 (UM-2) monochromator and an ФЭУ-32 (FEU-32) photomultiplier. Absorption spectra were measured on an СФ-4 (SF-4) spectrophotometer. The spectra are reproduced. From 0.01 to 0.03% of the activator an effect was discovered by which the bands of the luminescence spectrum were displaced. The absorption spectrum was also displaced towards

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S/070/60/005/005/009/017

E132/E360

The Luminescence Properties of Lithium Fluoride Activated by Uranium

the long wavelength region. It is shown that the presence of an oxidising atmosphere which permits the formation of the U^{+6} ions is a necessary condition for the activation of a crystal by uranium during its growth. The dependence of the luminescence and absorption in the crystal on the concentration of the activator permits the use of luminescence analysis for studying the processes by which impurities are distributed during the growth of crystals. There are 4 figures and 7 references: 5 Soviet and 2 English. ✓

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the AS USSR)

SUBMITTED: March 11, 1960

Card 2/2

L 09383-67 ENT(1)/ENT(m)/ENP(t)/ETI IJP(c) GG/JD
ACC NR: AR6033775 SOURCE CODE: UR/0058/66/000/007/A.051/A051 59

AUTHOR: Belyayev, L. M., Gil'varg, A. B.; Panova, V. P.; Sil'vestrova, I. M.;
Smirnov, S. P.

TITLE: Growing cadmium sulfide crystals from the melt and an investigation of their
properties

SOURCE: Ref. zh. Fizika, Abs. 7A435

REF SOURCE: Sb. Nekotoryye vopr. vzaimodeystviya ul'trazvuk. voln. s
elektronami provodim. V kristallakh, M., 1966, 33-46

TOPIC TAGS: crystal, cadmium sulfide, melt, cadmium sulfide monocrystal,
photoconductivity, visible region, dark current, piezoelectric modulus, elastic
modulus

ABSTRACT: A description is given of apparatus for growing large crystals of the
 $A^{II}B^{VI}$ type from the melt under pressure, both by the method of controlled heat
removal and the method of zone refining. The working space is heated by using
a resistance furnace or high-frequency current. Cadmium sulfide monocrystals are

Cord 1/2

L 09383-67

ACC NR: AR6033775

obtained and measurements were made of their photoelectric and optical properties (spectral photoconductivity curves, transmission spectrum in the visible region, dark current volt-ampere characteristics, lux-ampere characteristics) and piezoelectric moduli and elastic moduli at a constant field intensity and constant inductance. The results were found to be in good agreement with published data on crystals grown from the gas phase. However, the monocrystals obtained from melt are found to be less homogeneous. See also Ref. Zh. Fiz. 1966, 5A553. L. Rashkovich. [Translation of abstract]

SUB CODE: 20/

Cord 2/2 ml

PANOVA, V.P.

70-3-19/20

AUTHOR: Belyayev, L.M., Perlshteyn, V.A. and Panova, V.P.

TITLE: Investigation of the distribution of actuators in alkali-halide crystals by means of radio-active isotopes. (Issledovanie raspredeleniya aktivatora v shchelochno-galoidnykh kristallakh metodom radioaktivnykh indikatorov)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.3, pp. 437 - 440 (U.S.S.R.)

ABSTRACT: Investigations were carried out for potassium iodide, sodium iodide and caesium iodide crystals. Growth of crystals by the Kyropoulos method is effected in an open crucible into which the basic substance and the activator are poured simultaneously. Owing to the differences in the melting temperatures and in the vapour tension of the individual components, their volatility is non-uniform. In the given case, TlI has a lower melting temperature and a higher vapour tension and volatilises more intensively; consequently, there is a decrease in the TlI concentration in the melt with the progress of growth of the crystal and this can cause non-uniform distribution of the activator in the crystal. This factor was studied by using a melt of 99% KI and 1% Tl²⁰⁴I, from which specimens were taken at equal intervals of time and in these the Tl concentration was determined from their relative

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70-3-19/20

Investigation of the distribution of activators in alkali halide crystals by means of radio-active isotopes. (Cont.)

β activity. The results of measurements have shown that the content of $Tl^{204}I$ decreases in accordance with an exponential relation which is expressed by equation:

$$K_{t_n} = K_{t_0} e^{-1.15(t_n - t_0)},$$

and graphically by the curve, Fig. 1, p. 438. If a seeding is introduced and the crystal begins to grow, the evaporation surface decreases and accordingly, also, the loss of activator material. The change in the $Tl^{204}I$ concentration in the melt leads to a differing concentration in the crystal and this is graphically expressed by Fig. 2, p. 438. The distribution of the activator in the crystal grown by the Kyropoulos method is shown in the graph, Fig. 3, and it can be seen from this graph that the activator is distributed in layers and, thus, layers which form later contain less activator material due to its evaporation from the melt. The lower concentration of the activator material in the centre of the crystal is attributed to self-purification of the substance which takes place during the lower speed of growth of the crystal. The effect of hermetic sealing has also been investigated and under such

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70-3-19/20

Investigation of the distribution of activators in alkali halide crystals by means of radio-active isotopes. (Cont.)

conditions, the distribution of the activator in the crystal was more uniform, as can be seen from the graph, Fig. 4, p.439. The addition of a radio-active isotope enabled elucidation of the influence of long duration annealing of crystals on the redistribution in them of the activator due to diffusion. The crystal of KI was heated to 600 C and held at that temperature for seven days and, following that, it was slowly cooled down; the concentration non-uniformities decreased but were not entirely eliminated.

There are 6 figures and 5 references, 3 of which are Slavic.

ASSOCIATION: Institute of Crystallography Ac.Sc. U.S.S.R.
(Institut Kristallografii AN SSSR)

SUBMITTED: March 1, 1957.

AVAILABLE: Library of Congress

Card 3/3

S/564/57/000/000/028/029
D258/D307

AUTHORS: Beiyayev, L. M., Perl'shteyn, V. A., and
Panova, V. P.

TITLE: Application of radioactive indicators to the
study of the distribution of activator in
alkali halide crystals

SOURCE: Rost kristallov; doklady na pervom sovesnchanii
po rostu kristallov, 1956 g. Moscow, Izd-vo
AN SSSR, 1957, 341-344

TEXT: Crystals of KJ, NaJ and CsJ were grown by the methods
of Kiropolous and of Obriemov and Shubnikov to study the distri-
bution of activators (TlJ and AgCl containing Tl^{204} and Ag^{110})
within the crystals. Radioactivity of Tl^{204} was determined with
a standard "S" ("B") apparatus, using a B-2 Geiger-Muller
counter, and that of Ag^{110} with a scintillation counter employing

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S/564/57/000/000/028/029
D258/D307

Application of radioactive...

an NaJ(Tl) crystal and a photomultiplier ФЭУ-19 (FEU-19); the statistical error was $< 3\%$. It was found that in an NaJ(Tl) crystal grown by Kiropolous' method, the activator concentration may vary by up to 40% per cm; this inhomogeneity is largely due to evaporation of the activator from the melt. Concentration of Tl in the crystal is regularly connected with the Tl concentration in the melt. Above 4×10^{-4} moles Tl/mole NaJ in the crystal the relative luminescence becomes less dependent on the Tl concentration, so that even distribution of activator is less important when this concentration is exceeded. Activator distribution was also uneven in crystals grown by the method of Obriemov and Shubnikov. Tl concentration was markedly affected by the rate of crystal growth. Concentration of the Ag activator in KJ crystals remained unchanged when the amount of Ag in the initial melt was increased by a factor of 2. Activator nonuniformity could be slightly smoothed out by diffusion when the crystals were heated for 7 days. There are 5 figures.

Card 2/2

S/070/61/006/001/007/011
EO32/E514

AUTHORS: Belyayev, L.M., Gil'varg, A.B. and Panova, V.P.

TITLE: CsI(Tl) Scintillators for the Recording of α -Particles

PERIODICAL: Kristallografiya, 1961, Vol.6, No.1, pp.133-135

TEXT: J. C. Robertson and A. Ward (Ref.1) have reported a CsI(Tl) α -particle detector having a low γ -ray sensitivity. Other similar detectors have been reported by M. L. Halbert (Ref.2) and H. Knoepfel et al. (Ref.3). The present authors have investigated the properties of CsI(Tl) crystals having diameters between 30 and 55 mm. Commercially available CsI(Tl) crystals having a resolution of less than 14 to 15% at the Cs¹³⁷ photopeak were selected. Thin CsI(Tl) scintillators were prepared as follows. One end of the crystal was polished and attached to a plane-parallel glass plate 2 mm thick with the aid of Canada balsam. The glass plate had a diameter slightly greater than the diameter of the crystal. This was done because, owing to the plasticity of the CsI crystal, it is important to prepare from it a plane-parallel plate having a thickness of less than 2 to 1.5 mm. Next, using a special saw, a piece of the crystal was removed so that a plate 1.5 to 2 mm thick remained on the glass support. Since the state of the surface has an

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S/070/61/006/001/007/011
E032/E514

CsI(Tl) Scintillators

important effect on the scintillation properties of the crystal, particular attention was paid to the purity of the surface and to the degree to which it was polished. The present authors have used emery paper M-28 and M-10 attached to rotating metal discs and cerium oxide on a rotating ebonite disc covered by natural silk slightly moistened with ethyl glycol (A. E. Souch and D.R. Sweetman, Ref.5). The characteristics of the CsI(Tl) crystals were measured using a single-channel kicksorter and specially selected photomultipliers of types $\Phi\text{BY-24}$ (FEU-24) and $\Phi\text{BY-29}$ (FEU-29). It was found that different responses are obtained at different points on the surface of the crystal. Fig.1 shows the Am^{241} α -particle line obtained at different points on the surface of a 4 cm diameter scintillator. The numbers refer to different points on the crystal surface, as indicated in the circle on the left-hand side (Fig.1a). Fig.1b shows the response for a ground (1) and polished (2) surface. Scintillators with polished surfaces have better characteristics. Table 3 gives the scintillation characteristics of these crystals. Acknowledgments are made to G. F. Dobrzanskiy who supplied the CsI(Tl) crystals, 50 and 55 mm in diameter. There are 3 tables, 1 figure and 6 references: 2 Soviet and 4 non-Soviet.

Card 2/4

CsI(Tl) Scintillators

S/070/61/006/001/007/011
E032/E514

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography AS USSR)

SUBMITTED: August 17, 1960

Table 3

<u>Diameter of crystal,</u> <u>mm</u>	<u>Relative light</u> <u>output</u>	<u>Resolution of the</u> <u>Am²⁴¹ α-line, %</u>
30	100	5
30	109-111	3.5-4
40	98-109	4-4.5
50	88-91	5.5-6.3
55	88-94	5.2-6.3

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CsI(Tl) Scintillators

S/070/61/006/001/007/011
E032/E514

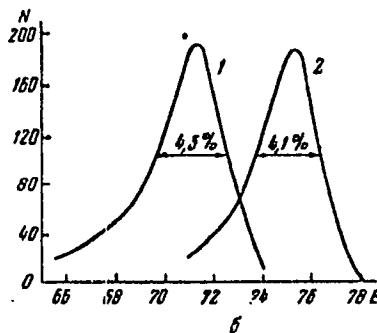
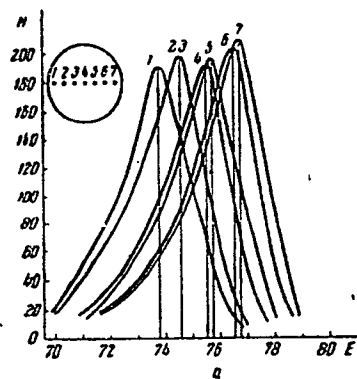


Рис. 1. Спектральное разрешение α -линии Am^{241} различными точками сцинтиллятора диаметром 40 мм (а) и шлифованным (1) и полированным (2) сцинтиллятором (б).

Fig.1

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AUTHORS:

PANOVA, V.P.

Belyayev, L. M., Panova, V. P., Perl'shteyn, V. A.,
Chadayeva, V. V., Tsigler, I. N.

48-1-4/20

TITLE:

On the Growing of Spectrometric Crystals According to the Method Deve-
loped by Kyropoulos (O vyrashchivanii metodom Kiropulosa spektiometri-
cheskikh kristallov).

PERIODICAL:

Izvestiya AN SSSR Seriya Fizicheskaya, 1958, Vol. 22, Nr 1,
pp. 21-22 (USSR).

ABSTRACT:

It is pointed out that in the growing according to the method developed
by Kiropulos the activator evaporates during the growth at the expense
of a higher tension of the activator-vapors and at the expense of a low-
er melting-temperature of the activator. In growing according to the
method by Obreimov-Shubnikov a self-purification of the substance takes
place during growth and the activator is displaced into the upper part
of the crystal. Therefore, neither of this two methods offers any possi-
bility of obtaining crystals with a uniform distribution of the activator
- If, however, the concentration of the activator in the crystal is in-
creased up to $4-5 \cdot 10^{-4}$ Mol TlJ per NaJ-Mol, emission of light in the ac-
tivator-concentration becomes practically imperceptible. In order to ob-
tain such a concentration of the activator in the crystal by the growing
of crystals according to the method developed by Kiropulos, it is neces-

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On the Growing of Spectrometric Crystals According to the Method
Developed by Kyropoulos.

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sary to introduce an activator into the set (up to 3%) which renders the growth, especially in the initial stage, very difficult. Therefore measures for the reduction of the activator-losses at the expense of evaporation are quite natural. For this purpose the authors constructed a hermetic furnace. In the cover of the furnace is an inspection glass, so that the process of the growth can be observed. The activator-losses were determined by means of radioactive thallium. It is shown that from an open crucible almost the entire activator evaporates within 12-15 hours, whereas in a hermetically closed furnace the activator concentration in the melt within 32 hours decreased by 20%. Under consideration of this fact the authors calculated a set with such an activator-addition that the nonuniform distribution of the activator does not disturb the spectrometric character of the crystal. The fact that the furnace was hermetically closed made a contact of the melt with atmospheric humidity impossible and thus a formation of bubbles in the melt was prevented. The latter are the cause of the formation of dull spots in the crystal. The reduction of the activator-losses permitted to obtain scintillation iodide crystals of large dimensions. Of the grown crystals scintillators were produced and tested. Crystals with a diameter of 55 to 80 mm and a height of 35 to 45 mm in the case of an excitation of them by

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On the Growing of Spectrometric Crystals According to the Method 48-1-4/20
Developed by Kyropoulos.

means of a Cs¹³⁷-preparation with the photomultiplier ~~ДЭУ~~-24 showed
an amplitude dissolving power of 8,5-11⁰/o(amplitudnoye razresheniye).
There is 1 figure.

ASSOCIATION: Institute for Crystallography AN USSR (Institut kristallografii. Akade=
mii nauk SSSR).

AVAILABLE: Library of Congress.

1. Chemistry 2. Crystals-Growth

Card 3/3

BOBKOVA, T.P., prepodavatel' kursov kroyki i shit'ya; GURBO, A.I., prepodavatel' kursov kroyki i shit'ya; ZHIVAYEVA, Ye.I., prepodavatel' kursov kroyki i shit'ya; ZEMSKOVA, O.V., prepodavatel' kursov kroyki i shit'ya; LYSENKO, A.V., prepodavatel' kursov kroyki i shit'ya; MARTOPIYAS, L.V., prepodavatel' kursov kroyki i shit'ya; MARTYNOVA, F.V., prepodavatel' kursov kroyki i shit'ya; PANOVA, V.P., prepodavatel' kursov kroyki i shit'ya; POMINOVA, M.G., prepodavatel' kursov kroyki i shit'ya; RYZHICHKINA, M.I., prepodavatel' kursov kroyki i shit'ya; SYCHEVA, T.A., prepodavatel' kursov kroyki i shit'ya; FILANOVICH, O.F., prepodavatel' kursov kroyki i shit'ya; BRUNEVSKAYA, M., red.; TRUKHANOVA, A., tekhn. red.

[Practical handbook on garment cutting and sewing] Prakticheskoe posobie po kroiye i shit'iu. 4. izd. Minsk, Gos.izd-vo BSSR Red. nauchno-tekhn.lit-ry, 1961. 607 p. (MIRA 14:12)

1. Minskii Okruzhnoy Dom ofitserov im. K.Ye.Voroshilova i klub im. F.E.Dzerzhinskogo (for all except Brunevskaya, Trukhanova).
(Dressmaking—Pattern design) (Sewing)

1 05771-0. ENL (M)/ENP (L)/ETI 10P (C) 3D

ACC NR: AR6031884

SOURCE CODE: UR/0058/66/000/006/E090/E090

AUTHOR: Sil'vestrova, I. M.; Panova, V. P.; Belyayev, L. M.

TITLE: Investigation of the spectral relationship of the Young modulus and the logarithmic decrement of longitudinal oscillations along the C axis of a cadmium sulfide crystal in the region of its photosensitivity

SOURCE: Ref. zh. Fizika, Abs. 6E710

REF SOURCE: Sb. Nekotoryye vopr. vzaimodeystviya ul'trazvuk, voln s elektronami provodim. v kristallakh. M., 1965, 47-65

TOPIC TAGS: Young modulus, cadmium sulfide, wave propagation, elastic wave, standing wave, photosensitivity

ABSTRACT: A method has been described for determining some parameters needed for amplification of the supersonic waves, including elastic constant waves in the direction of wave propagation, the electromechanical bonding coefficient, and the sample conductivity. From the measured values of changes in the logarithmic decrement of attenuation and the elastic moduli, it is possible to determine the spectral region where an electron interaction of conductivity with the standing and

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J. 05771-67

ACC NR: AR6031884

elastic wave in a crystal is maximum. The data on conducted measurements may serve as a criterion for sampling the CdS crystals for amplification and may be used for creating resonators with variable light, quality, and frequency. [Translation of abstract]

SUB CODE: 20/

Card

2/2 *eg/c*

ACC NR: AR6035053

SOURCE CODE: UR/0058/66/000/008/E072/E072

AUTHOR: Krasil'nikov, V. A.; Belyayev, L. M.; Lyamov, V. Ye.; Panova, V. P.; Sil'vestrova, I. M.; Uchastkin, V. I.

TITLE: Study of the attenuation and amplification of ultrasound in cadmium sulfide monocrystals

SOURCE: Ref. zh. Fizika, Abs. 8E549

REF SOURCE: Sb. Nekotoryye vopr. vzaimodeystviya ul'trazvyk. voln s elektronami provodim. v kristallakh. M., 1965, 66-76

TOPIC TAGS: cadmium sulfide, ultrasound, semiconductor crystal, dielectric crystal, ultrasound absorption, ultrasound amplification, pulse amplification, pulse absorption, ultrasonic wave

ABSTRACT: A study was made of the absorption and amplification of short pulses of longitudinal and transverse ultrasonic waves with frequencies of 20—25 Mc in cadmium sulfide monocrystals with varying degrees of photosensitivity and dark conductivity. Samples with In-electrodes were cemented with styracryl between

Cord 1/2

ACC NR: AR6035053

two fused quartz buffers. The conductivity of the samples was varied by illuminating them with an incandescent lamp through a light filter. Dependence curves of ultrasound absorption as a function of short-term exposures to radiation were found to be in agreement with theoretical curves and with results obtained by other authors. A super-position the drift field with $\sim 10 \mu$ sec pulses synchronized with ultrasound pulses, showed in some samples an amplification of ultrasound waves, polarized along the optical axis of the crystals. The greatest absolute amplification obtained for 24-Mc transverse waves was $\sim 20 \text{ dB/cm}$. At greater driving voltages self-excitation of ultrasound oscillations occurred without benefit of input signals. The point of inflection in the volt-ampere characteristic of illuminated samples corresponds to the excitation of oscillations and the beginning of amplification. The drift mobility of electrons within the $140\text{--}180 \text{ cm}^2/\text{v} \cdot \text{sec}$ range is computed from the magnitude of the drift field at the moment of current saturation and of ultrasound intensification. V. Shutlov. [Translation of abstract]

[SP]

SUB CODE: 20/

Card 2/2

Panova, V.S.

PAHOVA, V.S., aspirantka.

D.I. Pisarev on religion. Nauka i shizn' 24 no.10:47-48 0 '57.
(MLRA 10:11)

1. Moskovskiy gosudarstvennyy universitet.
(Pisarev, Dmitrii Ivanovich, 1840-1868)
(Religion and science)

SHARPENAK, A.E.; MIKHEYEVA, L.I.; NIKOLAYEVA, N.V.; SLOVOKHOTNOVA, I.A.;
BOBIK, G.S.; ALAYEVA, V.N.; STUPNIKOVA, G.A.; GUSAKOVA, I.A.;
GUSARSKAYA, V.V.; VOLCHEK, K.Ye.; SMIRNOVA, V.N.; PANOVA, V.V.;
KHMERSONSKAYA, P.M.;

Connection between enamel, the dentine, and the organism as a
whole. Vrach.delo no.2:203-205 F '59. (MIRA 12:6)

1. Kafedra biokhimii (zav. - prof.A.E.Sharpenak) Moskovskogo
meditsinskogo stomatologicheskogo instituta.
(TEETH)

PANOVA, V. ⁴/₂

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Inorganic Chemistry

③

Some ternary complexes of copper and silver. K. B. Yatsimirskii and V. R. Panova (Ivanovo Inst. Chem. Technol.). *J. Gen. Chem. U.S.S.R.* 22, 1320-33 (1952) (Engl. translation); *Zhur. Obshchei Khim.* 22, 1284-9 (1952).—When halides of Cu (I) and Ag dissolve in solns. of $S_2O_4^{--}$, mixed complexes of the type $[MeXS_2O_4]^{--}$ are formed. The solubilities of CuI and CuCNS in thiosulfate solns. were measured at various temps., and the stability consts. were calcd. for the resultant $[CuIS_2O_4]^{--}$ and $[Cu(CNS)S_2O_4]^{--}$ as 8.1×10^{-11} and 1.3×10^{-11} , resp. On the basis of literature data for the solubilities of Ag halides in thiocyanate and thiosulfate solns., the following stability consts. were calcd.: $[Ag(CNS)_3]^{--}$, $1.0 \pm 0.5 \times 10^{-11}$; $[Ag(CNS)]^-$, 7.1×10^{-11} ; $[AgClS_2O_4]^{--}$, 0.7×10^{-11} ; $[AgBrS_2O_4]^{--}$, 4.1×10^{-11} ; $[AgIS_2O_4]^{--}$, 2.7×10^{-11} .

Bernard Rubin

9-2-54
JRP

PANOVA, V. YE.

USSR/Inorganic Chemistry - Complex Compounds, C

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 665

Author: Panova, V. Ye.

Institution: None

Title: On the Composition and Stability of Complex Lead Tartrate Ions

Original

Periodical: Zh. neorgan. khimii, 1956, Vol 1, No 3, 422-426

Abstract: The formation of lead tartrate complexes has been studied by the solubility method. It has been established that when $\text{PbC}_4\text{H}_4\text{O}_6$ dissolves in solutions of $\text{Na}_2\text{C}_4\text{O}_6$, the complex $\text{Pb}(\text{C}_4\text{H}_4\text{O}_6)\text{C}_4\text{H}_3\text{O}_6^-$ (I) is formed by the reaction: $\text{PbC}_4\text{H}_4\text{O}_6(s) + \text{C}_4\text{H}_4\text{O}_6^{2-} + \text{OH}^- \rightarrow \text{I} + \text{H}_2\text{O}$ (I). The equilibrium constant for (I) in terms of the concentrations K_c is equal to $(6.03 + 0.61) \cdot 10^3$. According to (I) the Pb atom displaces one proton in the formation of the tartrate complex; this leads to the acidification of the solution.

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567

AUTHOR:

Panova, V. E.

TITLE:

Study of Citrate-Lead Complex Ions by the Solubility Method.
(Izuchenie Tsitrato-Svintsovykh Kompleksnykh Ionov po Metody
Rastvorimosti).

PERIODICAL:

"Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry,
Vol. 11, No. 2, pp. 330-335. (U.S.S.R.) - 1957

ABSTRACT:

The information in the literature on the composition and formation-conditions of citrate-lead complexes is contradictory. The present research was undertaken with the aim of providing a unified viewpoint for the composition and to elucidate the role of hydrogen ions in complex formation. The experimental method was based on the measurement of the solubility (25 ± 0.1°C) of normal lead citrate in sodium citrate solutions of different concentrations. The separated salt was analysed for lead gravimetrically. Hydrogen-ion concentration was determined by the Yatsimirskiy - Vasilyev method.

It was found that solution of lead citrate in sodium citrate solutions is accompanied by fall in pH. At pH ≈ 8 the complexes formed at equilibrium have the compositions $PbC_6H_4O_7^{2-}$ and $PbC_6H_5O_7^{-}$.

The equilibrium constants for the formation of these complexes at 25°C from solid $Pb_3(C_6H_5O_7)_2$, $C_6H_5O_7^{3-}$ and OH are 2.70×10^{-11} and 1.25×10^{-15} respectively. From four determinations a mean value

Card 1/2

PAROVA, Ya.I.

Absorbing load made of semiconducting ceramics. Izv. vys. ucheb.
zav.; radiotekh. no.3:329-336 My-Je '58. (MIRA 11:7)

1.Rekomendovana kafedroy dielektrikov i poluprovodnikov Leningradskogo
elektrotekhnicheskogo instituta.
(Microwaves) (Semiconductors)

9,1310 (460 1127)

28 224
S/194/61/000/005/068/078
D201/D303

AUTHOR: Panova, Ya. I.

TITLE: Approximate design of a high power absorption load with uniform heating

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1961, 52-53, abstract 5 I339 (Izv. Leningr. elektrotekhn. in-ta, 1960, no. 43, 125-134)

TEXT: Power division is considered between two media (air and solid dielectric with losses) filling a rectangular waveguide. The dielectric has the shape of a rectangular bar fixed along the wide wall of the waveguide. The absorption of power is analyzed in a matched tapered part of the load, the determination of distribution of power is discussed for the case of a straight line taper together with the heating of the absorber with a given profile of its matching section. It is shown that a strong local heating effect is observed when the matching wedge is linear. The design of the absor-

Card 1/2

Approximate design...

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S/194/61/000/005/068/078
D201/D303

ber profile which would produce an even heating of the load is given.
Certain practical, evenly heated load design criteria are given. 2
references. [Abstracter's note: Complete translation]

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Card 2/2

MITEL'MAN, Ye.L.; PANOVA, Ya.I.

Thermal conductivity of powdery inorganic insulating materials.
Inzh.-fiz. zhur. 6 no.4:83-85 Ap '63. (MIRA 16:5)

1. Elektrotekhnicheskii institut imeni V.I.Ul'yanova (Lenina),
Leningrad.
(Electric insulators and insulation--Thermal properties)

L 6832-55 EWT(1)/EWT(m)/K/EEC(b)-2/EWP(q)/EWP(b) LJE(c)/ASD(m)-3/ASD(a)-5/
APWL/ASD(f)/APETR/ESD(ga)/ESD(t)/BAEM(t) JD/QG/WH
ACCESSION NR: AP4044967 6/0181/64/006/009/2857/2859

AUTHORS: Ivukina, A. K.; Panova, Ya. I.

TITLE: Electric conductivity of single crystals of doped rutile 15

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2857-2859

TOPIC TAGS: rutile, rutile titanium, doping, niobium, electric conductivity, single crystal

ABSTRACT: Single crystals of rutile, doped with niobium and undoped, were investigated. The content of all other impurities was the same in the doped and undoped crystals. The resistivity was measured by a two-probe method. The results are listed in Table 1

in the drift mobility of the carriers in the directions of the c

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L 6832-65

ACCESSION NR: AP4044967

and a axes is practically independent of the degree of doping. The results indicate that a small amount (on the order of 0.1--0.2 at. %) of niobium in the titanium sublattice of rutile converts the latter from a dielectric into a semiconductor. Orig. art. has: 1 table.

ASSOCIATION: None

SUBMITTED: 17Feb64

ENCL: 01

SUB CODE: SS, EM

NR REF SOV: 001

OTHER: 004

Card

L 6832-65

ACCESSION NR: AP4044967

ENCLOSURE: 01

Table 1. Electric properties of doped rutile

1. Содержание леггирующей примеси в кристалле в ат. %, Nb и Ti + Nb	2. ρ , $\Omega \cdot \text{cm}$			3. Анизотропия	
	4. в направлении оси c	5. в направлении оси a	6. в углах к оси c	ρ_c ρ_a	ρ_{45° ρ_a
0.11	0.25	1.12	—	3.20	—
0.12	0.27	0.97	1.17	3.60	1.20
0.95	0.09	0.30	0.33	3.35	1.10
1.92	0.08	0.25	0.32	3.33	1.20
4.50	0.04	0.16	—	3.52	—

1 - Content of doping impurity in the crystal, at. %, Nb to Ti+Nb
2 - ρ , $\Omega \cdot \text{cm}$, 3 - anisotropy, 4 - in direction of c axis, 5 - in
direction of a axis, 6 - perpendicular to c axis and at 45° to a
axis

Card 3/3

IVUKINA, A.K.; PANOVA, Ya.I.

Electroconductivity of single crystals of doped rutile. Fiz.
tver. tela 6 no.9:2857-2859 S '64.

(MIRA 17:11)

ACC NR: AP7005354

SOURCE CODE: UR/0181/67/009/001/0253/0256

AUTHOR: Bogoroditskiy, N. P.; Kristya, V.; Panova, Ya. I.

ORG: Leningrad Electrotechnical Institute im. V. I. Ulyanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Electric properties of rutile alloyed with niobium

SOURCE: Fizika tverdogo tela, v. 9, no. 1, 1967, 253-256

TOPIC TAGS: semiconductor, rutile, electric conductivity, Hall effect, niobium containing alloy, ^{TEST}
TITANIUM OXIDE

ABSTRACT: Rutile single crystals alloyed with 0.005—1.0% niobium were doubly annealed in air at 800°C for 3 hr and slowly cooled. Specimens cut from the crystals were tested for electric conductivity and Hall effect at 84—500°K. It was found that alloying rutile with 0.005—0.05% niobium sharply increases its conductivity. Further increases in concentration, however, produce saturation. To test the effect of reduction on the properties of alloyed rutile, the specimens were reduced in a vacuum of $4 \cdot 10^{-3}$ mm Hg at 900°C for 20 min. The conductivity of an unalloyed control specimen increased twelve orders of magnitude, while that of an alloyed specimen increased only 1.2—1.5 times. The change in Hall effect was similar. It was also determined that semiconducting rutile alloyed with niobium is more resistant to

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UDC: none

ACC NR: AP7005354

changes of oxygen pressure at high temperatures than is reduced rutile. Orig. art.
has: 4 figures. [TD]

SUB CODE: 11, 20 / SUBM DATE: none

Card 2/2

IVUKINA, A.K.; PANOVA, Ya.I.

Some properties of hexagonal celsian grown by Verneuil's method.
Kristallografiia 9 no.4:560-563 J1-Ag '64. (MIRA 17:11)

1. Leningradskiy elektrotekhnicheskii institut imeni Ul'yanova
(Lenina).

BOGORODITSKIY, Nikolay Petrovich; PASYNKOV, Vladimir Vasil'yevich;
NASLEDOV, D.N., prof., rezensent; PANOVA, Ya.I., kand.tekhn.
nauk, red.; SOBOLEVA, Ye.M., tekhn.red.

[Radio electronics materials] Materialy v radioelektronike.
Moskva, Gos.energ.izd-vo, 1961. 352 p.

(MIRA 14:4)

1. Zaveduyushchiy kafedroy fiziki Leningradskogo politekhnicheskogo
instituta imeni M.I.Kalinina (for Nasledov).
(Electronic apparatus and appliances)

USSR / Farm Animals. Cattle.

Q-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54768.

Author : Panova Ye., Kotov, P.

Inst : Not given.

Title : The Fattening of Cattle on Corn Silage.

Orig Pub: Myasnaya industriya SSSR, 1957, No 4, 48-50.

Abstract: Daily rations consisting of 36 kg. corn silage and 2 kg. of concentrates per head produced an average daily weight gain of 982 g. In the fattening of cattle on distillers' dried solubles with a partial substitution (1st and 2nd group) and a total substitution (3rd group) of corn stalk silage for roughages, the output of meat and fat was, according to groups, as follows (in %): 55.1, 55.3, 52 and 53.9 (the 4th group was not fed silage).

Card 1/1

31

PANOVA, Ye.; KOTOV, P.

Fattening cattle with corn silage. *Mass. ind. SSSR* 28 no. 4: 43-50 '57.
(MLRA 10:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promysh-
lennosti.

(Cattle--Feeding and feeding stuffs) (Corn (Maize))

TOMIL, L., kandidat sel'skokhozyaystvennykh nauk; PANOVA, Ye.; KOTOV, P.

Using corn for fattening cattle. Mas. ind. SSSR 27 no.4:
40-41 '56. (MLRA 9:10)

1. Starshiy zootekhnik sovkhoza "Khutorok" (for Kotov).
(Corn (Maize)) (Feeding and feeding stuffs)

PANOVA, Yefaliya Alekseyevna, kand. yurid. nauk; NOVOSPASSKIY, V.V.,
red.; ANDREYEVA, L.S., tekhn. red.

[The rights of workers' committees on state farms] Prava rabo-
chikh komitetov sovkhozov. Moskva, Profizdat, 1962. 53 p.
(Bibliotekha sel'skogo profsoiuznogo aktivista, no.9)
(MIRA 16:1)

(State farms) (Trade unions)

PANOVA, Ye.I., starshiy nauchnyy sotrudnik; DEMIN, A.T., mekhanik.

New method of tagging sheep. Trudy VNIIMP no.7:146-150 '55.
(MIRA 9:8)

(Sheep)

PANOVA, E. V.

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Galalith. E. V. Panova and M. V. Pritsker. Russ.
50,370, March 31, 1941. A mother-of-pearl effect is ob-
tained by adding to the casein mixt. with water and dyes
a toluene soln. of naphthalene or naphthalene.

BRAYNES, S. N.; VISHNEVSKIY, A. A.; SHRAYBER, M. I.; PANOVA, Yu. M.;
BRAYLOVSKIY, E. L.; CHUCHINA, Ye. V.

"A cybernetic assessment of the general condition and prognosis of
burns."

Report to be submitted for the 3rd International Congress of Cybernetic
Medicine (International Society of Cybernetic Medicine) Naples, Italy,
21-24 Mar 64.

VISHNEVSKIY, A.A.; BRAYNES, S.N.; SHRAYBER, M.I.; BRAILOVSKIY, V.L.;
KUCHINA, Ye.V.; PANOVA, Yu.M.

Cybernetic method of determining the severity of the condition
and prognosis in burns. Eksper. khir. i anest. 8 no.4:3-6
Jl-Ag '63. (MIRA 17:5)

1. Institut khirurgii imeni A.V. Vishnevskogo (direktor-deystvitel'-
nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.

VISHNEVSKIY, A.A., prof.; GALANKIN, N.K., doktor med. nauk; ARAPCV, A.D.;
 AKHMETOV, A.M.; VINITSKAYA, R.S., kand. biol. nauk; VOLYNSKIY,
 Yu.D.; DARBINYAN, T.M., kand. med. nauk; DONETSKIY, D.A., kand.
 med. nauk; KLEMENOVA, Ye.S.; KUDRYAVTSEVA, A.M., kand. med. nauk;
 KRYMSKIY, L.D., kand. med. nauk; LOKSHINA, K.A.; MAZAYEV, P.N., prof.; PANOVA,
Yu.M.; PROMTOVA, T.N., kand. biol. nauk; PYL'TSOV, I.M.; SERGEYEVA,
 K.A., kand. med. nauk; KHARNAS, S.Sh., kand. med. nauk; KHRUSHCHEVA,
 kand. med. nauk; TSUKERMAN, B.M., kand. biol. nauk; SHIK, L.L.,
 prof.; GOL'DGAMMER, K.K., red.; BALDINA, N.F., tekhn. red.

[Congenital defects of the heart and large vessels] Vrozhdennye po-
 roki serdtsea i krupnykh sosudov; rukovodstvo dlia vrachei. Mo-
 skva, Medgiz, 1962. 577 p. (MIRA 16:1)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for
 Vishnevskiy).

(CARDIOVASCULAR SYSTEM--DISEASES)

PANOVA, Yu. M.

State of the capillaries in mitral defect of the heart before and after
commissurotomy. Grud. khir. no.5:39-41 '61. (MIRA 15:2)

1. Iz 1-go khirurgicheskogo otdeleniya (zav. - prof. N. I.
Krakovskiy) Instituta khirurgii imeni A. V. Vishnevskogo (dir. -
deystvitel'nyy chlen AMN SSSR prof. A. A. Vishnevskiy) AMN SSSR.

(MITRAL VALVE—SURGERY) (CAPILLARIES)

SMELOVSKIY, S.I., DARBINYAN, T.M., PANOVA, Yu.M.

Treatment and prevention of acute cardiovascular insufficiency
during commissurotomy [with summary in English]. Khirurgia 34
no.8:21-26 Ag '58 (MIRA 11:9)

1. Iz I otdeleniya (sav. - prof. N.I. Krakovskiy) Instituta
khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy
chlen AMN SSSR, zaslyzhenyy deyatel' nauki prof. A.A. Vishnevskiy)
AMN SSSR.

(MITRAL VALVE--SURGERY)

FANOVIC, Milivoje.

Veneral diseases 2. Izd. Beograd, Izdanje Instituta za zdravstveno
prosvetivanje NR Srbije, 1954. 24 f.

1. Veneral diseases.

PANOVKA, Ya.G.

25(0)

PHASE I BOOK EXPLOITATION , SOV/1209

Akademiya nauk Latviyskoy SSR. Institut mashinovedeniya

Voprosy dinamiki i prochnosti (Problems of Dynamics and Strength)
Riga, Izd-vo AN Latviyskoy SSR, 1958. 178 p. (Series: Its:
Sbornik statey, vyp. 5) 1,500 copies printed.

Ed.: Vengranovich, A.; Tech. Ed.: Inkis, R.; Editorial Board of
Series: Panovko, Ya.G., Doctor of Technical Sciences, Professor
(Resp. Ed.); Aynbinder, S.B., Candidate of Technical Sciences,
Docent; Kalinin, N.G., Candidate of Technical Sciences, Docent.

PURPOSE: This book is intended for research engineers and scientists
concerned with problems of dynamics and strength of structures.

COVERAGE: The book is a collection of ten research papers, prepared
by members of the Akademiya nauk Latviyskoy SSR (Academy of Sciences
of the Latvian SSR), the Latviyskiy gosudarstvenniy universitet
(Latvian State University) and the Rizhskoye Krasnoznamennoye
vyssheye inzhenerno-aviatsionnoye voennoye uchilishche (Riga Red-
Banner Higher Military School for Aeronautical Engineering imeni
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